I CLAIM:

1. A method to assess bone mineral density in male subject, the method comprising:

   a. measuring serum inhibin B level; and

   b. correlating said serum inhibin B level with bone mineral density in said male subject.

2. The method of claim 1 wherein said bone mineral density is total bone mineral density.

3. The method of claim 1 wherein said bone mineral density is spine bone mineral density.

4. The method of claim 1 wherein said bone mineral density is hip bone mineral density.

5. The method of claim 1 wherein said serum inhibin B amount is correlated with idiopathic or involutional osteoporosis.

6. A method for diagnosis of increasing bone turnover leading to increased bone loss in premenopausal and postmenopausal women, the method comprising:

   a. measuring serum inhibin A level; and

   b. correlating said serum inhibin A level with increased bone loss in premenopausal and postmenopausal women.

7. The method of claim 6 further comprising correlating said serum inhibin A levels with a bone turnover marker.

8. The method of claim 7 wherein said bone turnover marker is selected from the group consisting of alkaline phosphatase, deoxypyridinoline, deoxypyridinoline, and C-terminal peptide crosslinks of Collagen I.

9. A method for diagnosis of increasing bone turnover leading to increased bone loss in perimenopausal women, the method comprising:

   a. measuring serum inhibin A level; and

   b. correlating said serum inhibin A level with increased bone loss in perimenopausal women.

10. The method of claim 9 further comprising correlating said serum inhibin A levels with a bone turnover marker.

11. The method of claim 10 with a bone turnover marker wherein said bone turnover marker is selected from the group consisting of alkaline phosphatase, deoxypyridinoline, deoxypyridinoline, and C-terminal peptide crosslinks of Collagen I.

12 The method to detect increased bone turnover rates in premenopausal women subjects, comprising:

a. measuring serum concentration of inhibin A in said subject;

b. detecting increased bone turnover rates in said subject based on the serum concentration of inhibin A.

13. The method of claim 12 wherein said increased bone turnover rates are predictive of abnormal bone loss.

14. The method of claim 12 wherein said serum is drawn between days 3 to 7 of the subject's menstrual cycle.

15. The method to detect increased bone turnover rates in perimenopausal women subjects, comprising:

a. measuring serum concentration of inhibin B in said subject;

b. detecting increased bone turnover rates in said subject based on the serum concentration of inhibin B.

16. The method of claim 15 wherein said increased bone turnover rates are predictive of abnormal rates of bone loss.

17. The method of claim 15 wherein said serum is drawn between days 3 to 7 of the subject's menstrual cycle.

18. A method to predict bone formation in postmenopausal woman subjects, comprising:

a. measuring serum concentration of inhibin A in said subject; and

b. predicting bone formation in said subject based on the serum concentration of inhibin A.

19. A method to increase cancellous bone strength in a mammal comprising:

a. administering an effective amount of a derivative of inhibin in a pharmaceutically acceptable carrier to a mammal to increase cancellous bone strength.

20. The method of claim 19 wherein said derivative of inhibin is selected from the group consisting of a polypeptide and a small molecule agonist.

21. A method to increase bone volume in a mammal comprising:

a. administering an effective amount of a derivative of inhibin in a pharmaceutically acceptable carrier to a mammal to increase bone volume.

22. The method of claim 21 wherein said derivative of inhibin is selected from a group consisting of a polypeptide and small molecule agonist.